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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/057,903	01/29/2002	Lawrence Wilcock	1509-260	3686

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EXAMINER

MICHALSKI, JUSTIN I

ART UNIT PAPER NUMBER

2644

DATE MAILED: 12/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

RECEIVED

Office Action Summary

Application No.

10/057,903

Applicant(s)

WILCOCK, LAWRENCE

Examiner

Justin Michalski

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-10, 12-20 and 22-30 is/are rejected.
- 7) ☒ Claim(s) 11, 21 and 31 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-10, 12-20, and 22-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Ferren (US Patent 5,802,190).

Regarding Claim 1, Ferren discloses an audio user-interfacing method in which each of multiple items is represented in an audio field by a respective corresponding synthesized sound source from which sounds related to the items appear to emanate, the method comprising: (a) allocating the sound sources to groups such that each group comprises multiple sound sources with each sound source having its own respective position in said audio field (Col. 6, lines 52-56); and (b) automatically and cyclically unmuting each group of sound sources in turn for a limited period with the groups other than the current cyclically unmuted group being at least partially muted (Col. 6, lines 62-65).

Regarding Claim 12, Ferren discloses an apparatus for providing an audio user interface in which each of multiple items is represented in an audio field by a respective corresponding synthesized sound sources from which sounds related to the items appear to emanate, the apparatus comprising: storage means for storing data concerning the sound sources (Fig. 10, 110), said data including grouping data

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associating sound sources into groups, each with multiple sound sources (1-8); rendering-position determining means for determining, for each of said sound sources, an associated respective rendering position at which the sound source is to be synthesized to sound in the audio field; audibility-determining means for determining the audibility of each sound source based on its group (114), the audibility-determining means being arranged to automatically and cyclically unmute each group of sound sources in turn for a limited period, with the groups other than the current cyclically unmuted group being at least partially muted (114, 110); and rendering means including audio output devices, for generating an audio field in which said sound sources are synthesized at their associated rendering positions and with audibility as determined by said audibility-determining means (Fig. 7).

Regarding Claim 22, Ferren discloses an apparatus for providing an audio user interface in which each of multiple items represented in an audio field by corresponding synthesized sound sources from which sounds related to the items appear to emanate, the apparatus comprising: a data store for storing data concerning the sound sources (110), said data including grouping data associating sound sources in groups of multiple sound sources (1-8); a rendering-position determining arrangement arranged to determine for each said sound source, an associated rendering position at which the sound source is to be synthesized to sound in the audio field; an audibility-determining arrangement arranged to determine the audibility of each sound source based on a group (114, 112), the audibility-determining arrangement being further arranged to automatically and cyclically unmute each group of sound sources in turn for a limited

period, with the groups other than the current cyclically unmuted group being at least partially muted (Col. 6, lines 62-65); and a rendering subsystem, including audio output devices (Fig. 7) arranged to generate an audio field in which said sound sources are synthesized at their associated rendering positions and with audibility as determined by said audibility-determining arrangement.

Regarding Claims 2, 13, and 23 Ferren further discloses the sound sources are allocated to the groups according to at least one characteristic of their respective associated items (Col. 6, lines 59-65).

Regarding Claims 3, 14, and 24 Ferren further discloses wherein the sound sources are allocated to the groups according to their positions in the audio field (Zones, Col. 6, lines 62-64).

Regarding Claims 4, 15, and 25 Ferren further discloses sound sources are allocated to the groups by a user (Fig. 10, operator controls).

Regarding Claims 5, 16, and 26 Ferren further discloses each sound source has its own respective group (Fig. 10, 1-8).

Regarding Claim 6, Ferren further discloses unmuting at least one group of sound sources that is treated as an exception (Col. 6, lines 29-33).

Regarding Claims 7, 17, and 27 Ferren further discloses adjusting the duration of the period (Fig. 10, operator controls).

Regarding Claim 8, 18, and 28 Ferren further discloses cross fading the group whose limited period of being unmuted is ending with the group whose period of being unmuted is next to occur (Col. 7, lines 11-29).

Regarding Claims 9, 19, and 29 Ferren further discloses each group is associated with a respective audio-field reference relative to which the sound sources of the group are positioned, independently moving the audio-field references relative to a presentation reference which is determined by a mounting configuration of audio output devices used to synthesize said sound sources (Fig. 7).

Regarding Claims 10, 20, and 30, Ferren further discloses stabilization of the audio field relative to a vehicle in which the user is traveling; and performing the stabilization, as appropriate, in response to the turning of the vehicle, taking account of whether audio output devices used to synthesize the sound sources are vehicle mounted (Fig. 7).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 10, 20, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ferren as applied to claim 1, 19, and 29 in view of applicants disclosure. Ferren discloses a method and apparatus as stated above but does not explicitly disclose stabilizing the audio field relative to the world. The applicant discloses on page 3, lines 28-31 of the specification that "loudspeaker-based systems

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are inherently 'world stabilized' with the generated audio field remaining fixed as the user rotates their head, each sound source appearing to keep its absolute position when the hearer's head is turned". Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a world-stabilized audio field since loudspeaker-based systems are inherently "world-stabilized" as disclosed by the applicant.

Allowable Subject Matter

5. Claims 11, 21, and 31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin Michalski whose telephone number is (571)272-7524. The examiner can normally be reached on M-F 7-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on (571)272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JIM


December 9, 2005


HUYEN LE
PRIMARY EXAMINER